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**Citation for published version:**

Gille, F & Nardo, A 2020, 'A case for transformative learning in medical ethics education', *Journal of Medical Education and Curricular Development*. <https://doi.org/10.1177/2382120520931059>

**Digital Object Identifier (DOI):**

[10.1177/2382120520931059](https://doi.org/10.1177/2382120520931059)

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Publisher's PDF, also known as Version of record

**Published In:**

Journal of Medical Education and Curricular Development

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# A Case for Transformative Learning in Medical Ethics Education

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Journal of Medical Education and Curricular Development  
Volume 7: 1–2  
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DOI: 10.1177/2382120520931059



**ABSTRACT:** In this article, we discuss the current state of medical ethics education. In Higher Education, ethics is taught predominantly through discussion and case study-based teaching formats. At present, however, only little can be said about the adequacy of these teaching methods in attaining complex educational objectives as ethics education poses challenges regarding meaningful student assessment and evaluation of educational methods. Output-oriented evaluation and assessment paradigms that centre quantified student performance fail to meaningfully capture the learning of ethics. Currently, we argue that comparatively small efforts are being devoted to the advancement of innovative and adequate approaches to teaching and assessment in ethics education. In response to these shortcomings, drawing from educational traditions that focus on preparatory activities, we work towards a new approach to evaluate teaching methods and assessing the learning in ethics.

**KEYWORDS:** Medical ethics, course development, transformative learning, productive failure

**RECEIVED:** April 1, 2020. **ACCEPTED:** May 8, 2020.

**TYPE:** Perspective

**FUNDING:** The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was funded by ETHplus (Grant Number: 1-004563-000).

**DECLARATION OF CONFLICTING INTERESTS:** The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Since World War II, Ethics Education transitioned from the periphery to the core of medical degree programmes. Three historical trends contributed to that shift in significance of formal education in ethics: (1) conventions such as the 1946 Nuremberg Code and the 1978 Belmont Report fostered the increasing regulation of research with human subjects, (2) a string of cases of scientific misconduct urged reflection on professional standards (e.g., the Tuskegee Syphilis Study and Willowbrook Hepatitis experiments), and (3) historical events such as the American nuclear attacks on Japan pushed the discussion of responsibility in science and research.<sup>1</sup> In the 1990s, Ethics Education was established comprehensively in undergraduate medical curricula in the United States and the United Kingdom.<sup>2</sup> In the light of the current Coronavirus disease 2019 pandemic, the urgency of ethics in medical education has, once again, moved to the centre of our consciousness.

From an educational perspective, ethics is a comparatively challenging domain. On one hand, it integrates differently natured learning objectives, combining knowledge (about codes and regulations, etc.) with an ability for critical thinking and ‘ethical deliberation’. Nowadays, medical students need to be able to understand and deal with unprecedented ethical challenges emerging from the digitalisation of the health care system and society in general, for example, by the introduction of electronic patient records, artificial intelligence, medical apps, personalised medicine, and digital simulations. Thus, students do not merely have to ‘know’ about ethics, but to ‘interrogate [their] own ethical values and principles’<sup>3(p206)</sup> and embed these values and principles in complex contexts. Avci, 2017, summarises the objectives of Ethics Education in health care as:

... increasing ethical knowledge; improving ethical skills to strengthen ethical sensitivity, awareness, and judgement; developing ethical behavior; and promoting cultural competence.<sup>4(p143)</sup>

On the other hand, Ethics Education poses challenges regarding meaningful student assessment and evaluation of educational methods. Simple tests are inadequate for a domain like ethics where quantified student performance might not be indicative of ‘what works’ in terms of course design. Currently, a combination of case-based teaching and lectures is common practice, for example, at our university ETH Zurich. Generally, qualitative research with medical students supports practice-oriented formats. Practice-oriented formats combine the experience of ethical scenarios with discussion. The most frequently used teaching formats are (1) lecture and case study discussions, (2) moral case deliberation, (3) role plays, (4) case narratives and doctor stories, and (5) video clips.<sup>5</sup> In discussion and debate, students have the opportunity to examine their own values and integrate others’ viewpoints. Our own course evaluations show that students thoroughly enjoy engaging in discussing real-life problems. However, the research on discussion-based teaching in Ethics Education is scarce and comparatively small efforts are being devoted to the advancement of innovative and adequate approaches to evaluation in Ethics Education. Therefore, only little can be said about the efficiency of discussion-focused teaching approaches in attaining complex educational objectives.

We consider evaluating an ethics course based on a narrow conception of ‘learning-output’ measured by standardised testing inadequate. Instead, we propose an approach that understands the merit of discussion- and experience-based



educational arrangements as *preparatory experiences*, as experiences that enrich future learning from instruction. With that approach, we draw from well-established learning science paradigms such as 'Preparation for Future Learning' and 'Productive Failure' which conceive of exploration and invention activities before instruction as enriching for future learning from instruction.<sup>6</sup>

To define what makes a preparatory activity educational, we turn to Dewey, who defines an educational experience as experiences that grant 'the possibility of having richer experience in the future'.<sup>7</sup> An experience is 'educative', in Dewey's perspective, if it allows the individual to, by reflection, make a connection between action and the consequence of that action. These experiences, Dewey notes, are often 'negative', meaning marked by confusion and a sense of not-knowing. This not-knowing is the fertile ground for learning. Research shows that what seems initially as a failure in learning is actually a productive learning activity and can set the stage for future highly productive learning.<sup>6</sup> The combination of experiences of 'conflict' or 'dilemmas' foreshadowing discussion and instruction can also be found in Mezirow's theory of transformational learning, where learning is understood as the change of perspective attained through the critical discussion of 'negative' experiences.<sup>8</sup> Negative experiences as preparatory activities in medical ethics will be structured as introducing novel practical problems before the introduction of theory; this way students will be challenged to come to a solution without having the theoretical tools at hand. The introduction of theory will follow afterwards and students will have the opportunity to compare, discuss, and refine their solutions.

To develop educationally meaningful preparatory activities in medical ethics education that allow students to learn better from instruction, three example areas of educational designs come to mind: (1) virtual reality as an immersive learning experience, for example, *The Last Moments*-VR experience of assisted suicide<sup>9</sup>; (2) interdisciplinary teaching where students are exposed to concepts outside of the medical curriculum that are relevant to their work as future physicians – creating potentially fruitful 'negative experiences' that cause a productive change of perspective – for example basic algorithm programming to teach basic principles of artificial intelligence; and (3) the game-based learning of Ethics Education, for example, the

2D point and click adventure game *uMed: Your Choice* where the game player is an intern that needs to handle a range of challenging situation in the hospital environment.<sup>10</sup>

In response to these challenges and to prepare medical students for 21st-century medicine, we seek to develop a research programme in Ethics Education that evaluates educational designs not only with regard to the 'output' they create, but rather in terms of their value as a preparatory activity that enriches discussion and instruction in traditional course settings. We draw from a range of theoretical and empirical approaches that have conceptualised learning in that manner and seek to apply them to the domain of Ethics Education. While we want to preserve the discussion-based approaches to the teaching of ethics, we also advocate to explore novel teaching methods in medical ethics education.

### Author Contributions

FG and AN wrote the manuscript and approved the final manuscript.

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